

CLAIMS

What Is Claimed is:

- 1 1. An automatic parking system having at least one parking level comprising:
 - 2 a. a plurality of transporters moveable in any direction about the parking level, each
 - 3 transporter adapted to hold a vehicle thereupon; and
 - 4 b. at least one computer configured to wirelessly direct at least one of the transporters to
 - 5 move to a desired location to form at least one circulation path.
- 1 2. The parking system according to claim 1 wherein the circulation path is an arrival path.
- 1 3. The parking system according to claim 1 wherein the circulation path is a retrieval path.
- 1 4. The parking system according to claim 1 further comprising a transporter tracking system
2 coupled to the computer, wherein the transporter tracking system tracks locations of each
3 transporter.
- 1 5. The parking system according to claim 1 wherein the computer selects a protocol upon one or
2 more predetermined factors, wherein the protocol is wirelessly transmitted to one or more
3 selected transporters.
- 1 6. The parking system according to claim 1 wherein each transporter further comprises a plurality
2 of wheel assemblies, wherein each wheel assembly is rotatable to any desired angle with
3 respect to a vertical axis.

- 1 7. The parking system according to claim 6 wherein each transporter further comprises an
- 2 onboard computer configured to control operation of each wheel assembly independently of
- 3 one another.

- 1 8. The parking system according to claim 7 wherein the onboard computer is configured to ensure
- 2 that the transporter maintains a projected course.

- 1 9. The parking system according to claim 6 wherein the operation of the wheel assembly further
- 2 comprises independently steering each wheel assembly to a desired angle.

- 1 10. The parking system according to claim 6 wherein the operation of the wheel assembly further
- 2 comprises independently driving each wheel assembly at a desired speed.

- 1 11. The parking system according to claim 1 wherein each transporter further comprises an
- 2 onboard computer configured to control operation of the transporter.

- 1 12. The parking system according to claim 11 wherein each transporter further comprises a
- 2 communication system coupled to the onboard computer, wherein the communication system
- 3 sends and receives signals to the at least one computer.

- 1 13. The parking system according to claim 1 wherein each transporter further comprises a
- 2 rechargeable battery for powering one or more components of the transporter.

- 1 14. The parking system according to claim 1 wherein each transporter further comprises at least
- 2 one proximity sensor located thereon, the at least one proximity sensor configured to maintain a
- 3 predetermined distance between the transporter and an external object.

- 1 15. The parking system according to claim 1 further comprising at least one lifting mechanism for
- 2 vertically transporting the transporter to a desired parking level, wherein the at least one lifting
- 3 mechanism is directed to the desired parking level by the computer.
- 1 16. The parking system according to claim 1 further comprising at least one access bay configured
- 2 to properly position an arriving vehicle onto the transporter.
- 1 17. The parking system according to claim 16 wherein the at least one access bay further
- 2 comprises at least one moveable tire guide.
- 1 18. The parking system according to claim 16 wherein the at least one access bay further
- 2 comprises at least one moveable tire stopper.
- 1 19. The parking system according to claim 1 further comprising at least one access bay configured
- 2 to properly remove an exiting vehicle from the transporter.
- 1 20. The parking system according to claim 1 further comprising a storage device configured to
- 2 store the transporters therein, wherein the storage device is directed to selectively accept and
- 3 release one or more transporters by the computer.
- 1 21. The parking system according to claim 20 wherein the storage device further comprises a
- 2 recharging port configured to recharge a rechargeable battery of the transporter when stored
- 3 therein.

1 22. The parking system according to claim 1 further comprising one or more entry stations
2 configured to initially receive an arriving vehicle, the one or more entry stations including at least
3 one device for measuring dimensions of the arriving vehicle.

1 23. An automatic parking system having at least one parking level, the system comprising:
2 a. a plurality of transporters adapted to hold a vehicle thereupon, each transporter
3 configured to be moveable in any direction about the at least one parking level; and
4 b. a central computer for wirelessly directing a selected transporter to a designated
5 location.

1 24. The parking system according to claim 23 wherein the designated location at least partially
2 creates a circulation path, wherein the circulation path allows an arriving vehicle and transporter
3 to be stored in a designated parking space.

1 25. The parking system according to claim 23 wherein the designated location at least partially
2 creates a circulation path, wherein the circulation path allows a vehicle and transporter stored in
3 a parking space to be retrieved.

1 26. The parking system according to claim 23 further comprising a transporter tracking system
2 coupled to the central computer, wherein the transporter tracking system tracks locations of
3 each transporter.

1 27. The parking system according to claim 23 wherein the central computer selects a protocol upon
2 one or more predetermined factors, wherein the protocol is wirelessly transmitted to one or
3 more selected transporters.

- 1 28. The parking system according to claim 23 wherein each transporter further comprises a
- 2 plurality of wheel assemblies, wherein each wheel assembly is rotatable to any desired angle
- 3 with respect to a vertical axis.

- 1 29. The parking system according to claim 23 wherein each transporter further comprises an
- 2 onboard computer configured to control operation of the transporter.

- 1 30. The parking system according to claim 29 wherein each transporter further comprises an
- 2 onboard computer configured to control operation of each wheel assembly independently of
- 3 one another.

- 1 31. The parking system according to claim 30 wherein the onboard computer is configured to
- 2 ensure that the transporter maintains a projected course.

- 1 32. The parking system according to claim 30 wherein the operation of the wheel assembly further
- 2 comprises independently steering each wheel assembly to a desired angle.

- 1 33. The parking system according to claim 30 wherein the operation of the wheel assembly further
- 2 comprises independently driving each wheel assembly at a desired speed.

- 1 34. The parking system according to claim 28 wherein each transporter further comprises a
- 2 communication system coupled to the onboard computer, wherein the communication system
- 3 sends and receives signals to the central computer.

- 1 35. The parking system according to claim 23 wherein each transporter further comprises a
- 2 rechargeable battery for powering one or more components of the transporter.

1 36. The parking system according to claim 23 wherein each transporter further comprises at least
2 one proximity sensor located thereon, the at least one proximity sensor configured to maintain a
3 predetermined distance between the transporter and an external object.

1 37. The parking system according to claim 23 further comprising at least one lifting mechanism for
2 vertically transporting the transporter to a desired parking level, wherein the at least one lifting
3 mechanism is directed to the desired parking level by the computer.

1 38. The parking system according to claim 23 further comprising at least one access bay configured
2 to properly position an arriving vehicle onto the transporter.

1 39. The parking system according to claim 38 wherein the at least one access bay further
2 comprises at least one sensor located therein, the at least one device for measuring dimensions
3 of the arriving vehicle.

1 40. The parking system according to claim 23 further comprising at least one access bay configured
2 to properly remove an exiting vehicle from the transporter.

1 41. The parking system according to claim 23 further comprising a storage device configured to
2 store the transporters therein, wherein the storage device is directed to selectively accept and
3 release one or more transporters by the computer.

1 42. The parking system according to claim 41 wherein the storage device further comprises a
2 recharging port configured to recharge a rechargeable battery of the transporter when stored
3 therein.

1 43. The parking system according to claim 23 further comprising one or more entry stations
2 configured to initially receive an arriving vehicle, the one or more entry stations including at least
3 one device for measuring dimensions of the arriving vehicle.

1 44. A transporter adapted to hold a vehicle thereupon and move the vehicle to one or more
2 locations in a parking level, the transporter comprising:
3 a. a body;
4 b. a plurality of wheel assemblies coupled to the body, wherein each wheel assembly is
5 rotatable to any angle about an axis and configured to move the transporter in any
6 direction; and
7 c. an onboard computer coupled to the body and configured to control operation of the
8 wheel assemblies.

1 45. The transporter according to claim 44 wherein the transporter further comprises a
2 communication system coupled to the onboard computer, wherein the communication system
3 wirelessly sends and receives signals with a central computer.

1 46. The transporter according to claim 45 wherein the transporter moves to the one or more
2 locations by executing one or more instructions wirelessly received from the central computer.

1 47. The transporter according to claim 45 wherein the transporter wirelessly communicates its
2 position to a transporter tracking system.

1 48. The transporter according to claim 44 wherein each wheel assembly is configured to be set at
2 any angle in a 360 degree rotation with respect to the axis.

1 49. The transporter according to claim 44 wherein each wheel assembly is independently operable
2 by the onboard computer.

1 50. The transporter according to claim 44 wherein each wheel assembly is independently steerable
2 by the onboard computer.

1 51. The transporter according to claim 44 wherein each wheel assembly is independently driveable
2 by the onboard computer.

1 52. The transporter according to claim 44 wherein each transporter further comprises a
2 rechargeable battery for powering one or more components of the transporters, the
3 rechargeable battery coupled to a recharging port.

1 53. The transporter according to claim 44 wherein each transporter further comprises at least one
2 proximity sensor located thereon, the at least one proximity sensor configured to maintain a
3 predetermined distance between the transporter and an external object.

1 54. The transporter according to claim 44 wherein the onboard computer is configured to ensure
2 that the transporter maintains a projected course.

1 55. A method of automatically moving a vehicle to or from a parking space comprising:
2 a. selecting a protocol depending on at least one predetermined factor; and
3 b. transmitting instruction relating to the protocol to an omni-directional transporter,
4 wherein the transporter executes the instruction and to move to a designated location in
5 compliance with the selected protocol.

1 56. The method according to claim 55 wherein the transporter moving to the designated location at
2 least partially creates a circulation path, wherein the circulation path allows the vehicle to be
3 stored in the parking space.

1 57. The method according to claim 55 wherein the transporter moving to the designated location at
2 least partially creates a circulation path, wherein the circulation path allows a vehicle and
3 transporter stored in the parking space to be retrieved.

1 58. The method according to claim 55 further comprising tracking movement of the transporter in
2 the garage, wherein the movement of the transporter is compared to the protocol.

1 59. The method according to claim 55 further comprising ensuring movement of the transporter is in
2 compliance with a projected course associated with the protocol.

1 60. The method according to claim 55 further comprising transmitting instruction relating to the
2 protocol to a lift mechanism, wherein the lift mechanism is an intermediate designated location
3 and is configured to vertically transport the transporter to the designated location.

1 61. The method according to claim 55 further comprising transmitting instruction relating to the
2 protocol to a storage mechanism, the storage mechanism being the designated location and
3 configured to store the transporter.

1 62. The method according to claim 55 further comprising transmitting instruction relating to the
2 protocol to an access bay, the access bay being the designated location and configured to
3 receive the transporter.

1 63. An automatic parking system having at least one parking level, the system comprising:

2 a. means for transporting a vehicle, wherein the means for transporting adapted to hold a
3 vehicle thereupon, the means for transporting configured to be moveable in any
4 direction along the at least one parking level; and

5 b. means for directing the means for transporting to a designated location to create a
6 circulation path.

1 64. A parking system configured to selectively store or retrieve a vehicle on a parking level, the
2 parking system comprising:

3 a. a central computer configured to select a parking space for the vehicle, wherein the
4 central computer wireless transmits a protocol for storing the vehicle in the parking
5 space; and

6 b. a transporter further comprising:

7 i. a body adapted to hold the vehicle thereupon;

8 ii. a plurality of wheel assemblies coupled to the body and rotatable about an axis
9 to any angle, wherein the wheel assemblies allow the transporter to move in any
10 direction on the parking level;

11 iii. an onboard computer coupled to the wheel assemblies and configured to
12 operate the wheel assemblies; and

13 iv. a communication system configured to wirelessly receive the protocol from the
14 central computer, wherein the onboard computer executes the received
15 protocol to move the transporter to the parking space.

1 65. An automatic parking system having at least one parking level and a plurality of vehicle
2 transporting devices configured to carry a vehicle in any desired direction on the parking level,
3 the system comprising a central computer for selecting one or more dynamic circulation paths

1 and instructing one or more vehicle transporting devices in the plurality to move in one or more
2 desired directions to establish the one or more dynamic circulation paths.